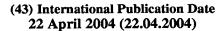
CORRECTED VERSION

(19) World Intellectual Property Organization

International Bureau





PCT

(10) International Publication Number WO 2004/034749 A1

(51) International Patent Classification7: 33/14, C09K 11/06, H01L 51/20

H05B 33/10.

(21) International Application Number:

PCT/GB2003/004406

- (22) International Filing Date: 10 October 2003 (10.10.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0223510.9

10 October 2002 (10.10.2002) GB

(71) Applicant (for all designated States except US): CAM-BRIDGE DISPLAY TECHNOLOGY LIMITED [GB/GB]; IP Department, Greenwich House, Madingley Rise, Madingley Road, Cambridge, Cambridgeshire CB3 OTX (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): PATEL, Nalinkumar [GB/GB]; Cambridge Display Technology Limited, Greenwich House, Madingley Rise, Madingley Road, Cambridge, Cambridgeshire CB3 0TX (GB). LEAD-BEATER, Mark [GB/GB]; Cambridge Display Technology Limited, Greenwich House, Madingley Rise, Madingley Road, Cambridge, Cambridgeshire CB3 0TX (GB), MURPHY, Craig [GB/GB]; Cambridge Display Technology Limited, Greenwich House, Madingley Rise, Madingley Road, Cambridge, Cambridgeshire CB3 0TX (GB).

- (74) Agent: GILANI, Anwar; Cambridge Display Technology Limited, Greenwich House, Madingley Rise, Madingley Road, Cambridge, Cambridgeshire CB3 0TX (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

(48) Date of publication of this corrected version:

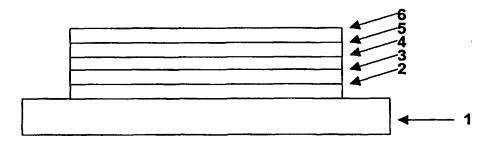
2 September 2004

(15) Information about Correction:

see PCT Gazette No. 36/2004 of 2 September 2004, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: OPTICAL DEVICE



(57) Abstract: The present invention relates to a method of forming an optical device comprising the steps of; i) providing a substrate carrying a first electrode capable of injecting or accepting charge carriers of a first type; ii) depositing a polyfluorene over the first electrode; and iii) forming over the polyfluorene a second electrode capable of injecting or accepting charge carriers of a second type, wherein the polyfluorene is heated before and after forming the second electrode. The invention has particular application in the preparation of organic light emitting devices.



INTERNATIONAL SEARCH REPORT

Int ional Application No PCT/GB 03/04406

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H05B33/10 H05E H05B33/14 H01L51/20 C09K11/06 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7. H05B H01L C09K Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages Category ° P,X Y.H.NIU ET AL.: "Effects on thermal 1-8,12, 13,16-24annealing on light-emitting devices based on fluorene-copolymers with thiophene and ethylenedioxythienylene" SYNTHETIC METALS. vol. 135-136, 4 April 2003 (2003-04-04), pages 477-478, XP002268236 the whole document X Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance Invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) cannot be considered to involve an inventive step when the document is combined with one or more other such documentments, such combination being obvious to a person skilled in the art. "Y" document of particular relevance; the claimed invention "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the International filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 27 January 2004 13/02/2004 Name and mailing address of the ISA **Authorized officer** European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Doslik, N Fax: (+31-70) 340-3016

INTERNATIONAL SEARCH REPORT

Intel onal Application No
PCT/GB 03/04406

	INTERNATIONAL SEAROTI REPORT	PCT/GB 03/04406
C.(Continua	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X .	Y.H.NIU ET AL.: "Thermal annealing below the glass transition temperature: a general way to increase performance of light-emitting diodes based on copolyfluorenes" APPLIED PHYSICS LETTERS, vol. 81, no. 4, 22 July 2002 (2002-07-22), pages 634-636, XP002268237 cited in the application the whole document	1-24
A	EP 1 011 154 A (SONY INT EUROP GMBH ;MAX PLANCK INST FUER POLYMERFO (DE)) 21 June 2000 (2000-06-21) the whole document	1-24
A	EP 1 178 546 A (XEROX CORP) 6 February 2002 (2002-02-06) the whole document	1-24
	<i>,</i>	
	·	

INTERNATIONAL SEARCH REPORT

information on patent family members

Intd onal Application No PCT/GB 03/04406

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 1011154	A	21-06-2000	EP WO JP US	1011154 A1 0036660 A1 2002532846 T 6649283 B1	21-06-2000 22-06-2000 02-10-2002 18-11-2003
EP 1178546	A	06-02-2002	EP JP US	1178546 A2 2002100473 A 2003132704 A1	06-02-2002 05-04-2002 17-07-2003